

Universal Type 5800



- Sturdy model to industry standard, Ø58 mm housing
- Many variations, also customized versions
- IP 65
- Temperature and ageing compensation
- Short-circuit proof outputs
- Reverse connection protection (at $U_B = 10 \dots 30$ V DC)
- Highly flexible PUR-cable
- Resolution up to 5000 ppr
- High shaft load

- available as explosion proof zone 2 and 22

Mechanical characteristics:

Speed:	max. 12000 min ⁻¹
Rotor moment of inertia:	appr. 1,8 x 10 ⁻⁶ kgm ²
Starting torque:	< 0,01 Nm
Radial load capacity of shaft*:	80 N
Axial load capacity of shaft*:	40 N
Weight:	appr. 0,4 kg
Protection acc. to EN 60 529:	IP 65
Working temperature:	-20 °C ... +85 °C ¹⁾
Operating temperature:	-20 °C ... +90 °C ¹⁾
Shaft:	stainless steel
Shock resistance acc. to DIN-IEC 68-2-27	1000 m/s ² , 6 ms
Vibration resistance acc. to IEC 68-2-6:	100 m/s ² , 10...2000 Hz

*View also diagrams on page 25

¹⁾Constant trailing: -20 ... +70 °C

Pulse rates available at short notice:

5, 10, 15, 20, 25, 30, 50, 60, 100, 120, 125, 127, 150, 176, 180, 200, 216, 240, 250, 254, 256, 300, 314, 360, 375, 400, 500, 512, 600, 625, 720, 745, 750, 762, 800, 900, 927, 1000, 1024, 1250, 1270, 1400, 1500, 1800, 2000, 2048, 2250, 2400, 2500, 3000, 3600, 4000, 4096, 5000

Other pulse rates on request

Electrical characteristics

Output circuit:	RS 422 (TTL-compatible)	RS 422 (TTL-compatible)	Push-pull	Push-pull	Push-Pull (7272)
Supply voltage:	5 V (±5%) or 10 ... 30 V DC	5 ... 30 V DC	10 ... 30 V DC	5 ... 30 V DC	5 ... 30 V DC
Power consumption (no load) without inverted signal:	–	–	typ. 55 mA / max. 125 mA	typ. 55 mA / max. 125 mA	–
Power consumption (no load) with inverted signals:	typ. 40 mA / max. 90 mA	typ. 40 mA / max. 90 mA	typ. 80 mA / max. 150 mA	typ. 80 mA / max. 150 mA	50 mA 100 mA
Permissible load/channel:	max. ±20 mA	max. ±20 mA	max. ±30 mA	max. ±30 mA	max. ±20 mA
Pulse frequency:	max. 300 kHz	max. 300 kHz	max. 300 kHz	max. 300 kHz	max. 300 kHz ³⁾
Signal level high:	min. 2,5 V	min. 2,5 V	min. $U_B - 2,5$ V	min. $U_B - 1,5$ V	min. $U_B - 2,5$ V
Signal level low:	max. 0,5 V	max. 0,5 V	max. 2,0 V	max. 2,0 V	max. 0,5 V
Rise time t_r	max. 200 ns	max. 200 ns	max. 1 µs	max. 1 µs	max. 1 µs
Fall time t_f	max. 200 ns	max. 200 ns	max. 1 µs	max. 1 µs	max. 1 µs
Short circuit proof outputs: ¹⁾	yes ²⁾	yes ²⁾	yes	yes	yes
Reverse connection protection at U_B :	5 V: no, 1 0 ... 30 V: yes	yes	yes	no	no
Conforms to CE requirements acc. to EN 61000-6-1, EN 61000-6-4 and EN 61000-6-3					

¹⁾When supply voltage correctly applied

²⁾Only one channel at a time: (when $U_B = 5$ V, short-circuit to channel, 0 V, or $+U_B$ is permitted.)
(when $U_B = 10 \dots 30$ V short-circuit to channel or 0 V is permitted.)

³⁾ Cable length up to 30 m

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Terminal assignment

Signal:	0 V	0 V Sensor ²⁾	+U _B	+U _B Sensor ²⁾	A	\bar{A}	B	\bar{B}	0	$\bar{0}$	Shield
12-pin. Connector, Pin:	10	11	12	2	5	6	8	1	3	4	PH ¹⁾
7-pin. Connector, Pin:	F	--	D	E	A	-	B	-	C	-	G
10-pin. Connector, Pin:	F	-	D	E	A	G	B	H	C	I	J
Cable colour:	WH 0,5 mm ²	WH	BN 0,5 mm ²	BN	GN	YE	GY	PK	BU	RD	

¹⁾PH = Shield is attached to connector housing

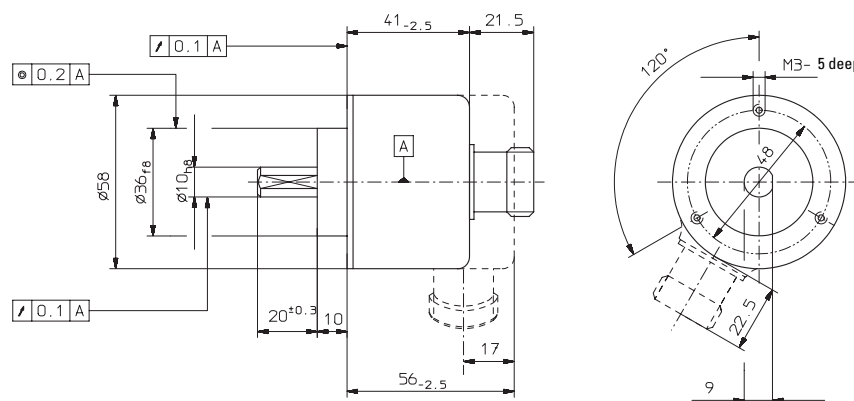
²⁾The sensor cables are connected to the supply voltage internally if long feeder cables are involved they can be used to adjust or control the voltage at the encoder

- If the sensor cables are not in use, they have to be insulated or 0 V Sensor has to be connected to 0 V and U_B Sensor has to be connected to U_B

- Using RS 422 outputs and long cable distances, a wave impedance has to be applied at each cable end.
Insulate unused outputs before initial startup.

Dimensions

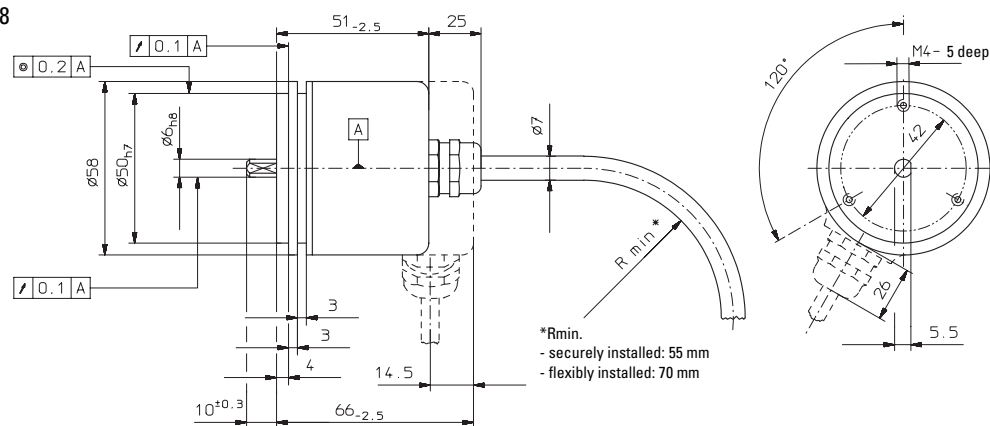
Clamping flange $\varnothing 58$



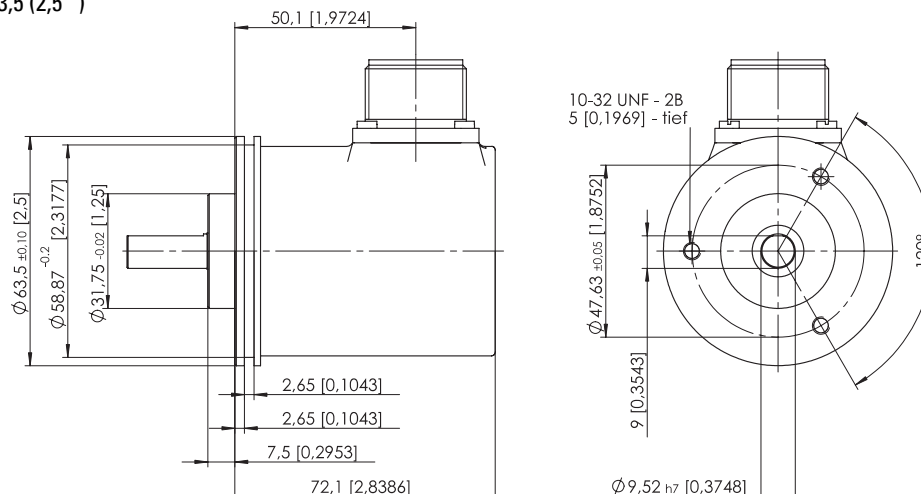
Mounting advice:

Do not connect encoder and drive rigidly to one another at shafts and flanges! Always use couplings to prevent shaft overload (see accessories chapter).

Synchronous flange $\varnothing 58$



Synchronous flange $\varnothing 63,5$ (2,5 ")



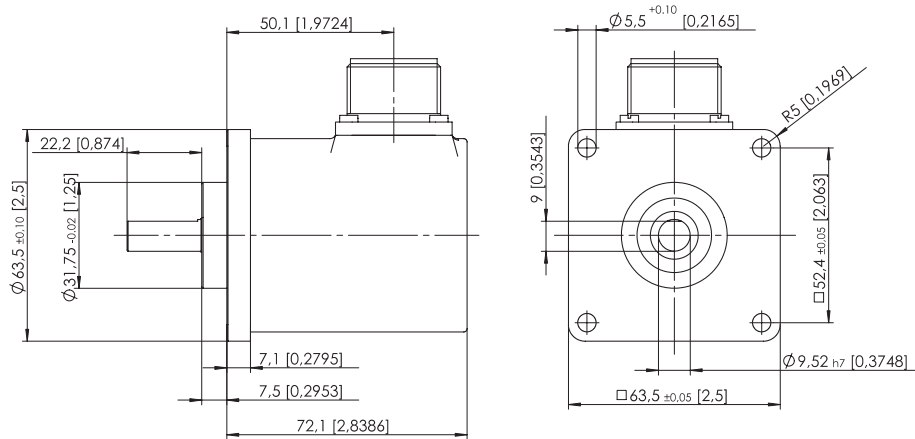
Rotary Measuring Technology

Incremental shaft encoder



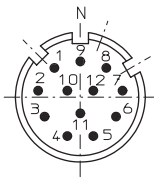
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Rectangular flange
□ 63,5 (2,5")

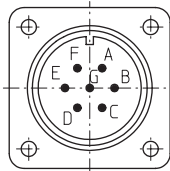


Top view of mating side, male contact base:

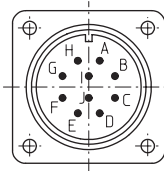
12 pin plug



7 pin plug



10 pin plug



Order code:

8.5800.XXXX.XXXX

Range		Pulse rate (e.g. 250 pulses=> 0250)
Flange 1 = Clamping flange \varnothing 58 2 = Synchronous flange \varnothing 58 M = Rectangular flange □ 63,5 (2,5") P = Synchronous flange \varnothing 63,5 (2,5")		Type of connection 1 = Cable axial (1 m PUR-Cable) 2 = Cable radial (1 m PUR-Cable) 3 = axial 12 pin plug without mating connector 5 = radial 12 pin plug without mating connector W ¹⁾ = 7 pin plug, "MIL"-specified without mating connector, radial Y = 10pin plug, "MIL"-specified without mating connector, radial ¹⁾ only with output 7
Shaft (\varnothing x L) 1 = \varnothing 6 mm x 10 mm 2 = \varnothing 10 mm x 20 mm P* = \varnothing 9,52 mm x 22,2 mm (3/8" x 7/8") (*only with Flange M or P)		
Type of connection and supply voltage 4 = RS 422 (with inverted signal) 5 V supply voltage 5 = RS 422 (with inverted signal) 10 ... 30 V supply voltage 6 = Push-pull (with inverted signal) 10 ... 30 V supply voltage 7 = Push-pull (without inverted signal) 10 ... 30 V supply voltage 8 = Push-pull (without inverted signal) 5 ... 30 V supply voltage 9 = Push-pull (with inverted signal) 5 ... 30 V supply voltage Y = RS 422 (with inverted signal) 5 ... 30 V Supply voltage T = Push-Pul (with inverted signal) 5 ... 30 V supply voltage	Preferred types are fat marked	
	Express types 8.5800.12XX.XXXX ¹⁾ 8.5800.21XX.XXXX ¹⁾ ¹⁾ except connection W	

Accessories:

Corresponding mating connector to connection type 3 or 5
Art.-no. 8.0000.5012.0000

Corresponding mating connector to connection type W:
Art.-no. 8.0000.5052.0000

Corresponding mating connector to connection type Y:
Art.-no. 8.0000.5062.0000

Further accessories see accessories chapter